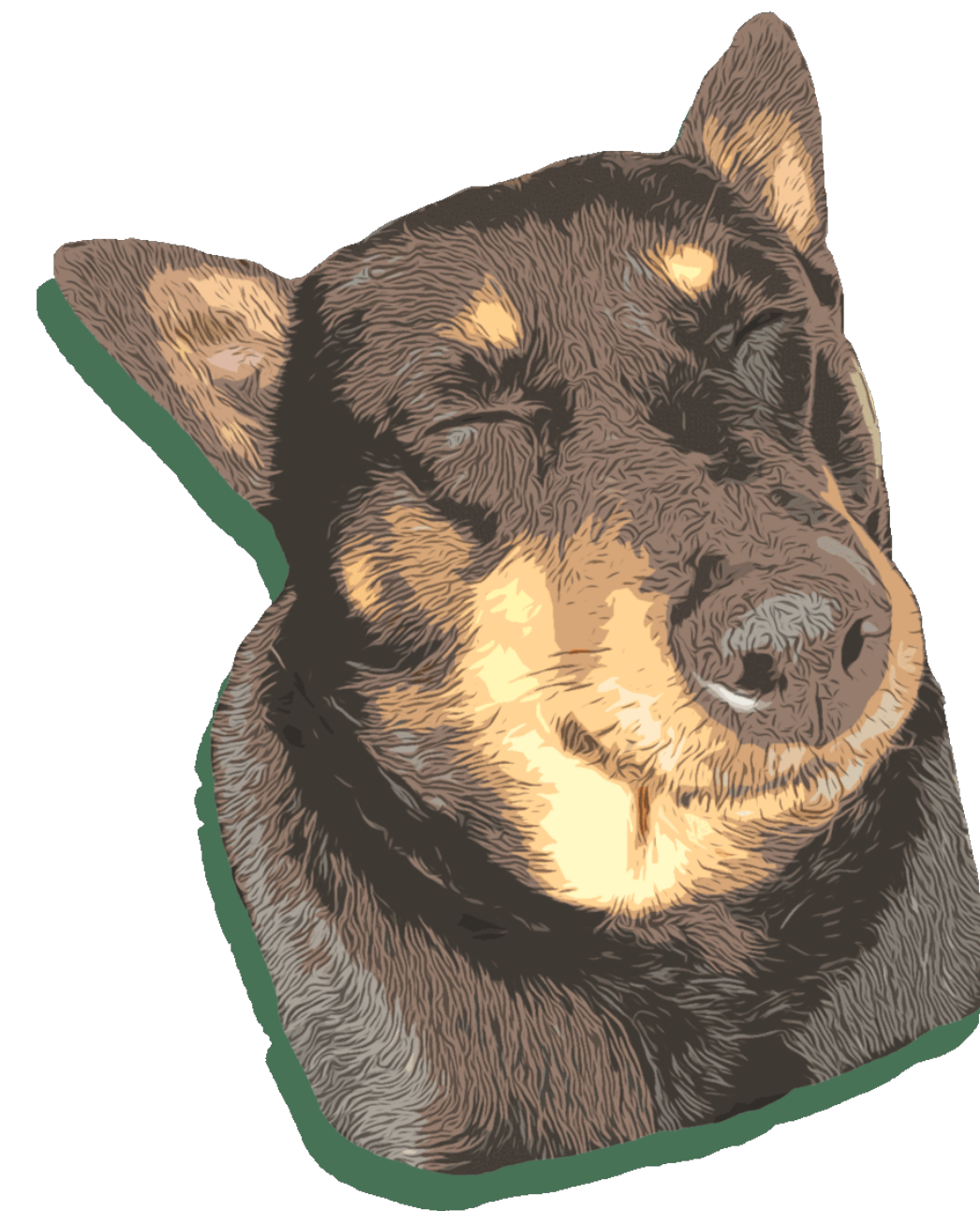# Bennett Ngan

Design Portfolio

November 2022

Bennett is a product designer
for **thoughtful and immersive
experiences**

Bennett Ngan

Multidisciplinary Designer

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in/bennettngan/

Education

University of California, Berkeley

Aug 2021 - Dec 2022

Master of Design - Interaction Design

University of California, San Diego

Sept 2017 - June 2021

B.S. Aerospace Engineering

Experience

Solar Turbines - UX Design Intern

San Diego, CA, Jun 2022 - Present

Redesign of help request form across internal and external users for primary SaaS platform, collaboration with multiple stakeholders (PM, BA, SDE)

Volunteer Vacations - Product Designer

Rio De Janerio, Oct 2021 - Dec 2021

Designed membership plans and interactive maps through user research, comp. analysis, UI/UX prototyping, and copywriting

Raytheon Technologies - R&D Intern

San Jose, Jun 2019 - Sept 2019

Revised FEA model to increase simulation accuracy by 68%, modeled novel fire seals in CATIA and conducted preliminary FEA testing in LS-Dyna, Patran

NewBeeDrone - Product Design Intern

San Diego, Oct 2018 - May 2019

Collaborated with CFO to develop a drone through CAD, rapid prototyping (FDM/SLA), DFM for injection molding, and electromechanical integration

Projects

Terrascape - Product Design, IoT

Design and fabrication of IoT devices that help with hiker safety through an interactive trail dashboard and personal tracker

Transience - AR Interaction Design

Speculative design of Augmented Reality landscape through a mixture of sensors, projections, tangible CNC models, and creative visualization code

Pawsible - MR Interaction Design

Created a mixed reality dog simulation experience through the combination of tangible components (Quest 2, Arduino, mechatronics, Unity)
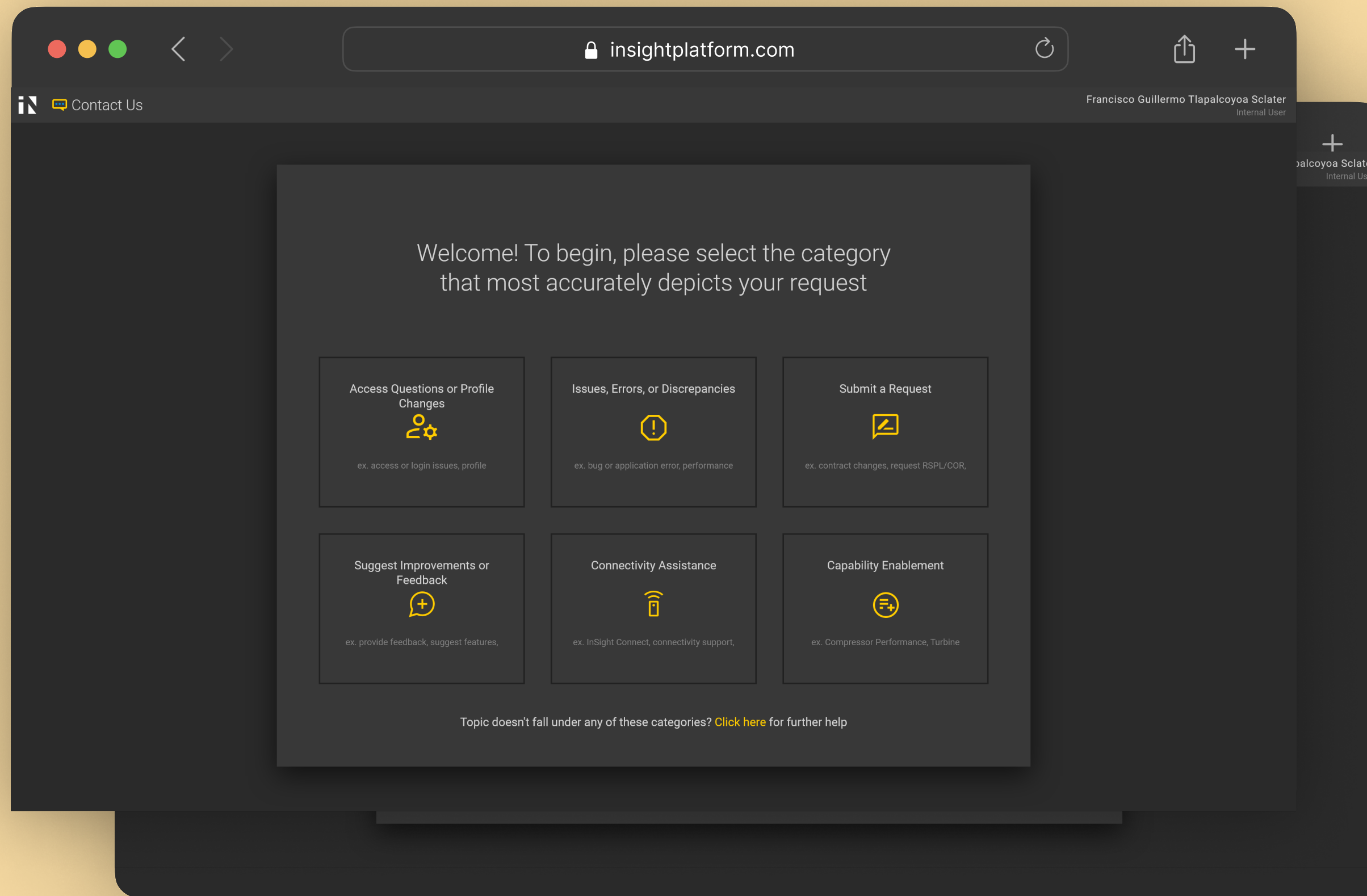
Skills

Design

Prototyping	Interaction Design
Visual Design	Quantitative Analysis
User Research	Product Strategy

Software

Figma	Miro
Adobe CC	Lightroom
Unity	Webflow

Solar Turbines

Redesigning a help request form for scaleability and efficiency

Duration   11 weeks

Role   UI/UX Intern

Deliverables   User Research + Experience Design

Project Overview

InSight is Solar Turbines' SaaS platform for remote monitoring of industrial gas turbines. The Contact Us form has not been kept up to date with the software's features and developments over the years, leading to an uptick in ticket rerouting, slower response times, and outdated topic organization.

My role was to redesign the Contact Us form for an **improved user experience for both ticket submitters and owners.**

ⓘ Main Question:

How do we help customers improve the quality of their contact us ticket submissions?

User Flows

Mapping the user experience from problem occurrence to resolution helped contextualize the Contact Us form within the overall help experience, allowing me to identify potential pain points and frame the scope of the project. This also served as a way for me to quickly brainstorm questions about the process that allowed me to dive deeper into the user experience and determine next steps.
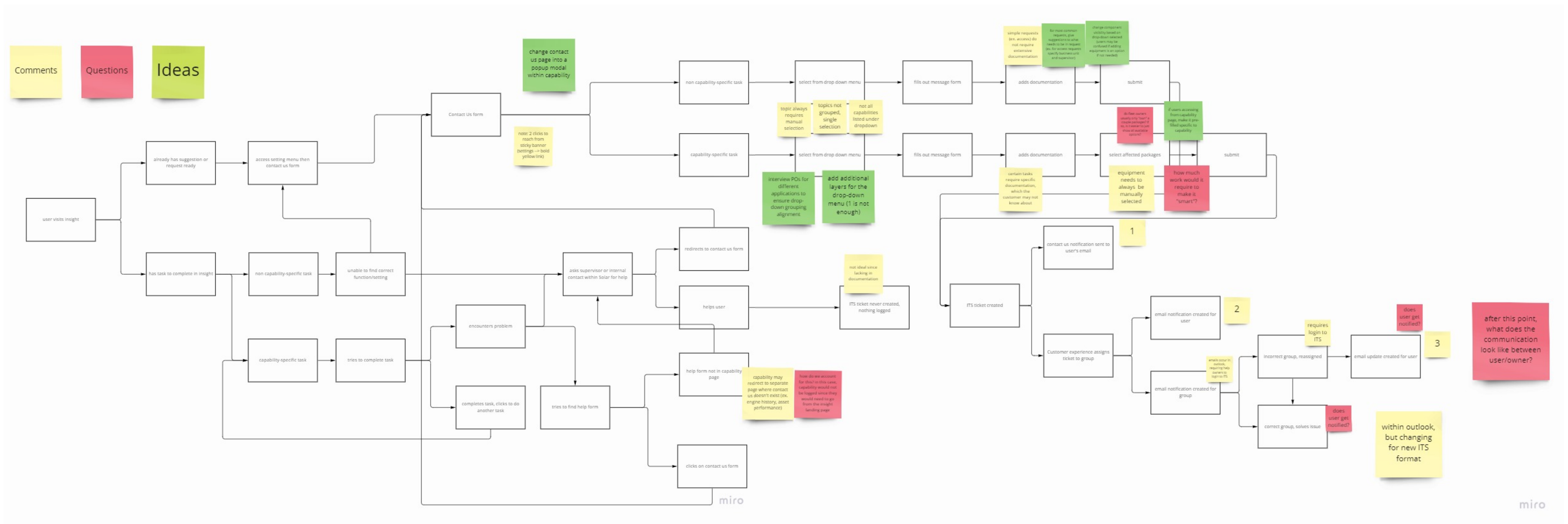
Terrascape

Plan, track, and stay informed on your next hike

Duration	7 weeks
Role	UX Designer + Engineer (team of 5)
Deliverables	Interaction Design, User Research, Mechatronics Design/Coding

Project Overview

Terrascape enables hikers, especially solo hikers, to feel safer by allowing them to plan their hike at the onset and providing them with means of emergency communication on the trail.

Based on real-time inputs and updates, our dashboard and tracker aims to tackle individual spaces—such as the struggles of female solo hikers—that are seldom acknowledged by the hiking community

ⓘ Main Question:

How do we help hikers feel safe before and during the hike?

User Research

Between 2019 and 2020, the number of hikes logged increased by 171.6%.
Additionally, the volume of individual hikers increased by 134%. After some
qualitative research, we conducted a google survey as well as open-ended interviews
about individual experiences in public spaces. Here's what we found:

"I have a fear of being watched, and
not knowing what's around me."
- Female Hiker

"I wish someone would have your
back when you are alone - how do
rescuers know where the people
who need help are?"
- Solo Hiker

Prototyping + Testing

Synthesizing recurring themes found in our original problem space and second round of user interviews, we created three speculative Lo-Fi prototypes to address our new space:
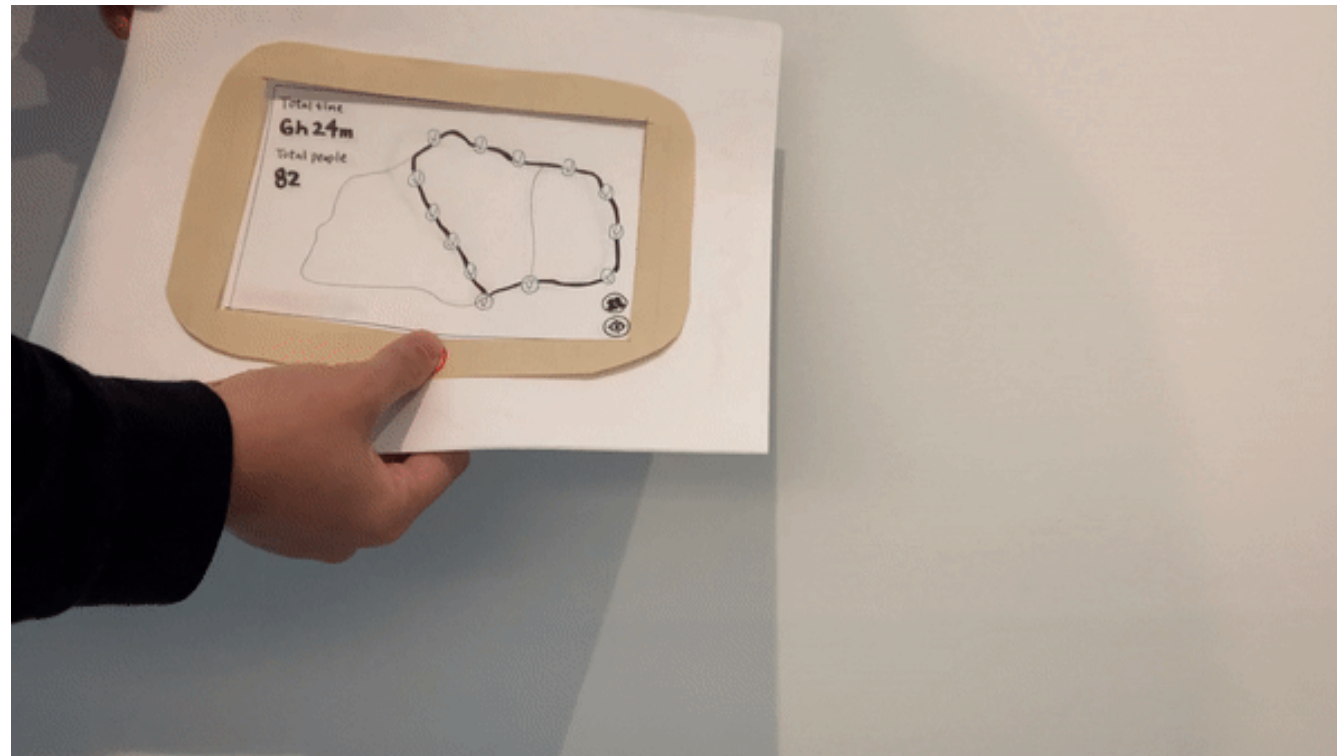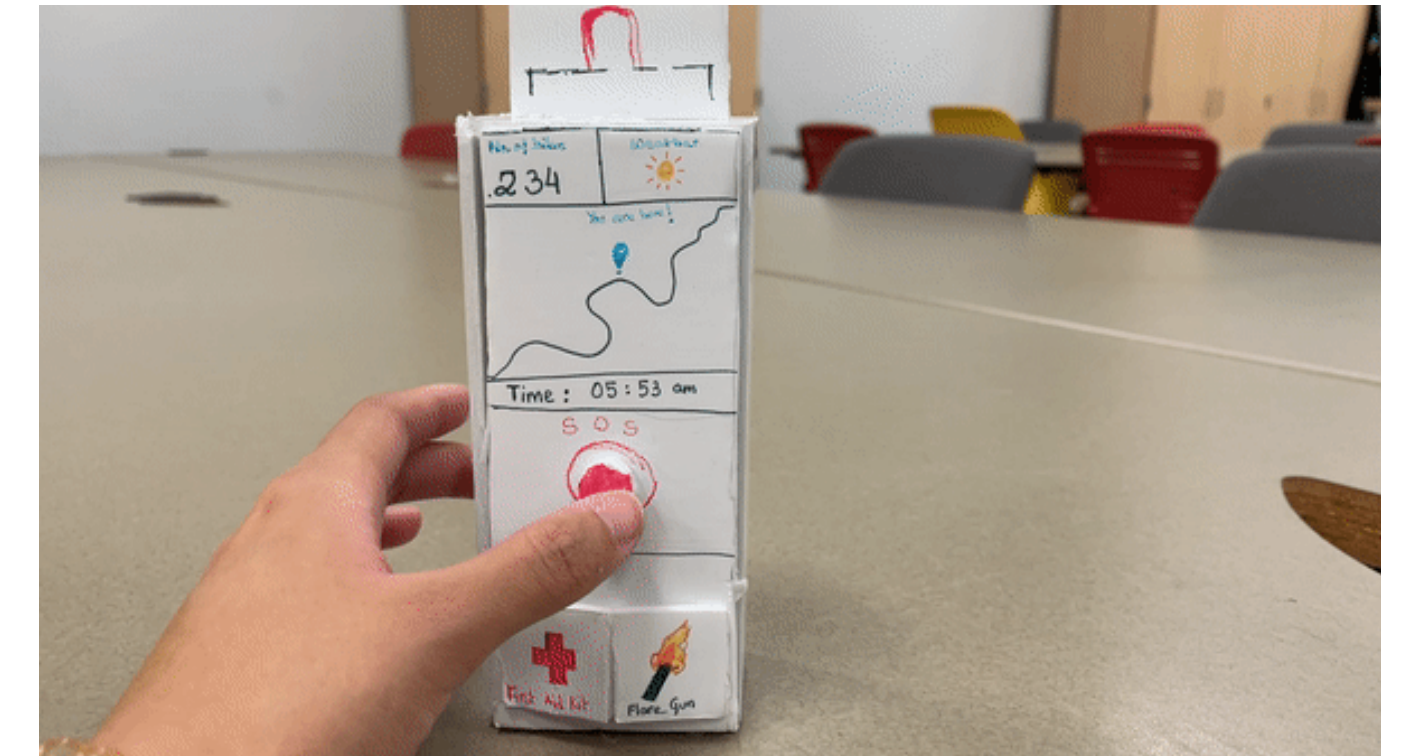

Hiking Dashboard

A tech-infused revamp of the trailhead map, able to communicate live trail conditions through live visualizations such as trail conditions or weather forecast

Personal Tracker

A small and portable GPS device able to send emergency signals to relevant social services such as park rangers or the local fire station
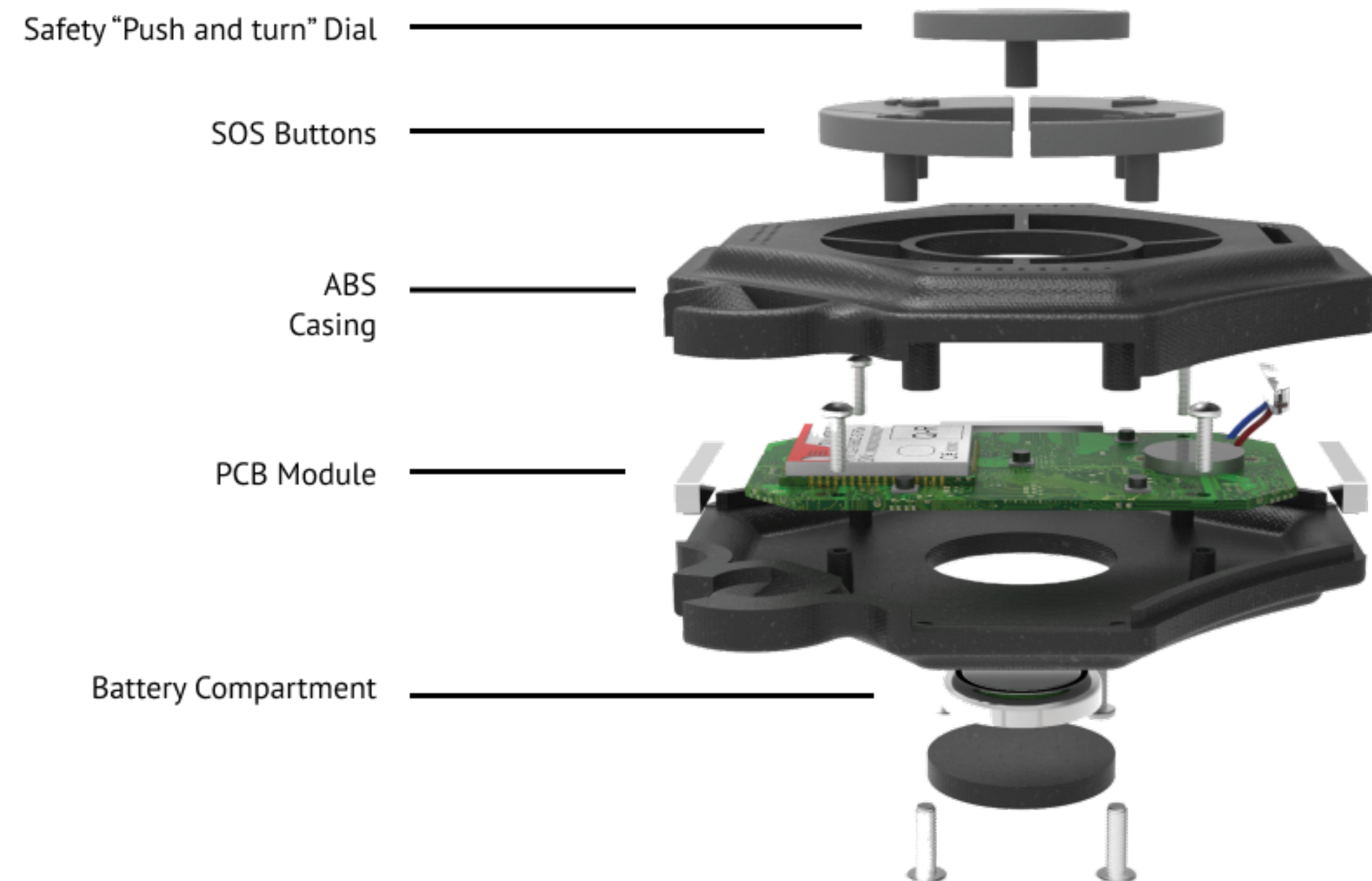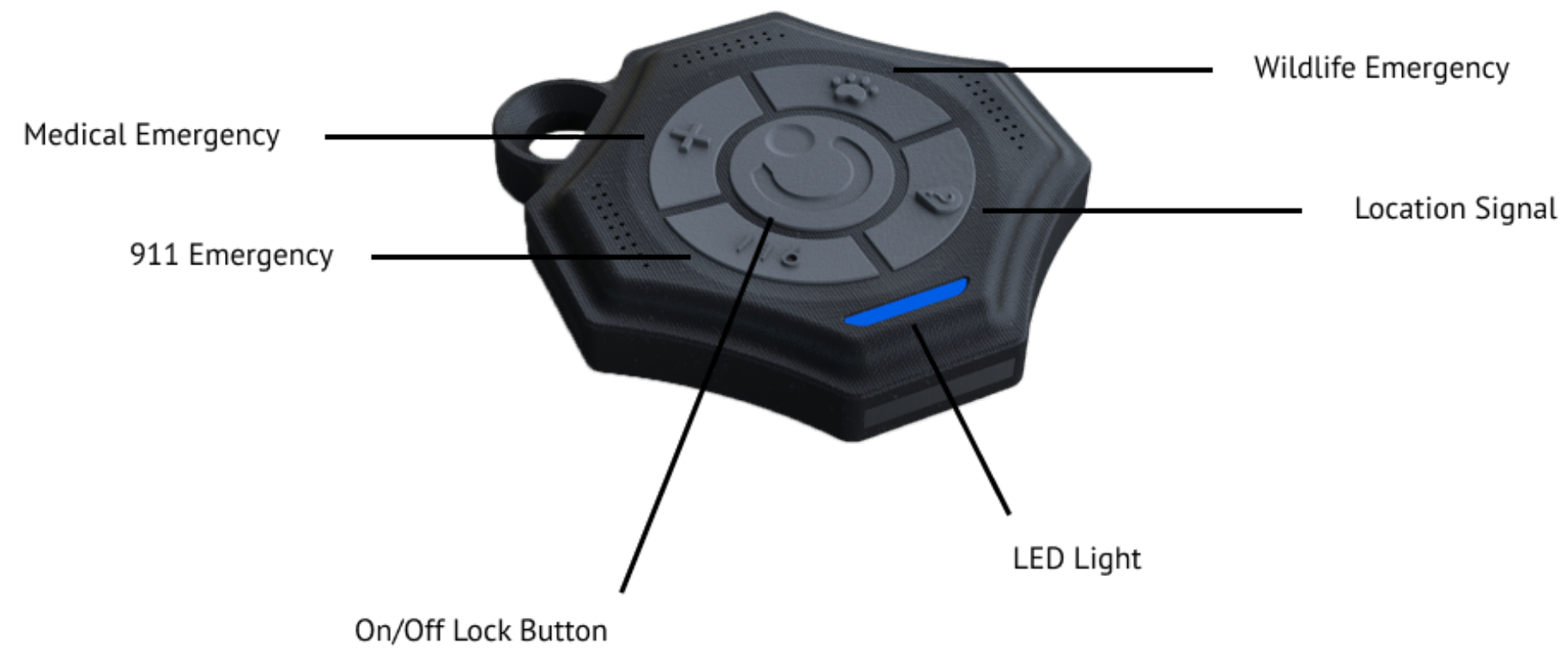
Trail Checkpoints

Multiple stations installed throughout trails that monitor hiker activity and provide emergency aid / communication
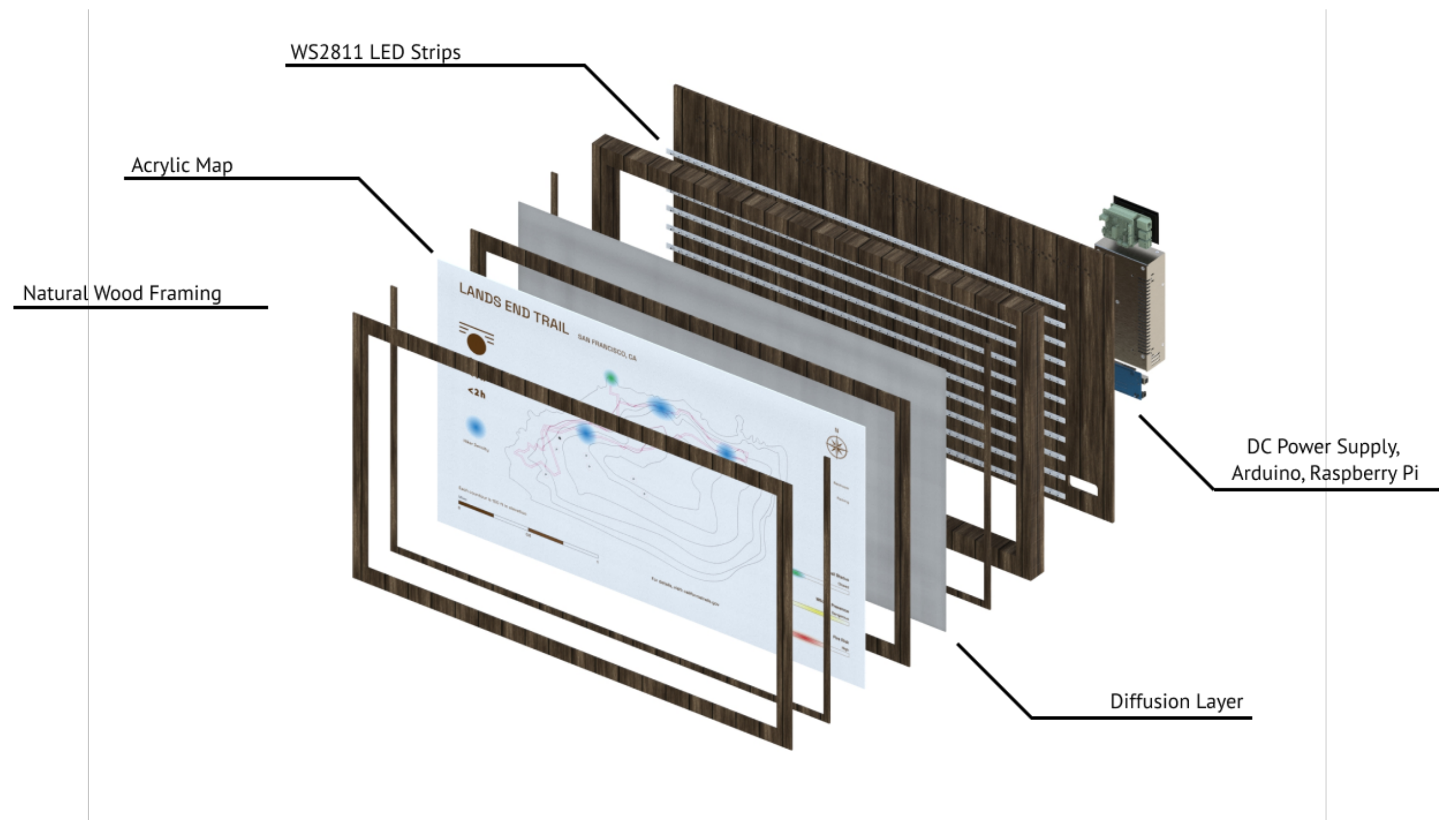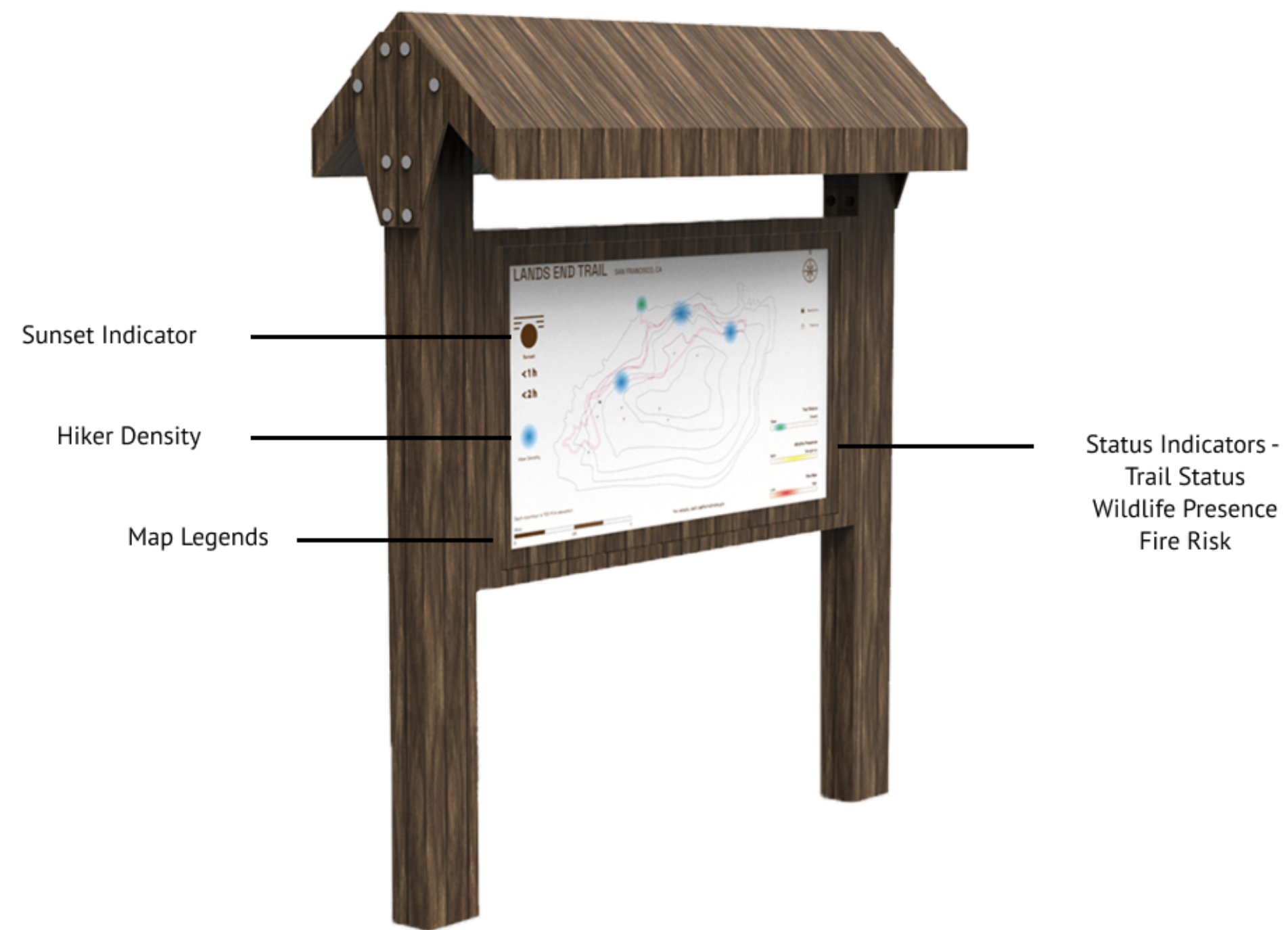
Personal Tracker

The GPS module is a device given by park rangers to hikers at the trailhead/visitor center. The device sends location data passively to the dashboard and also sends various distress signals when "activated" - a lightweight but powerful means of staying in contact with trail and safety personnel.

Wildlife Emergency

Medical Emergency

Location Signal

911 Emergency

LED Light

On/Off Lock Button

Safety "Push and turn" Dial

SOS Buttons

ABS Casing

PCB Module

Battery Compartment

Trailhead Dashboard

This public device is viewed by hikers on the onset of a hike, providing vital live information such as trail statuses, hiker density, and weather. This visualized data is provided by the GPS trackers on the trail and continually updated by the park ranger.

Sunset Indicator

Hiker Density

Map Legends

Status Indicators -
Trail Status
Wildlife Presence
Fire Risk

WS2811 LED Strips

Acrylic Map

Natural Wood Framing

DC Power Supply,
Arduino, Raspberry Pi

Diffusion Layer

Mixing Signals

An immersive reality notification system

Duration   12 Weeks

Role   UX Designer + Engineer (team of 5)

Deliverables   Interaction Design, User Research,
Mechatronics Design/Coding

Moodboard

Signal Card